

WHAT IS CLAIMED IS:

1. A glass coated with a heat reflecting colored film,
which comprises a glass substrate, and a first layer
containing iron oxide and a second layer containing
5 cobalt oxide, laminated sequentially by a sputtering
method on one side of the glass substrate, wherein:
in the first layer, the amount of iron based on the
total metal amount is at least 60 mass%, and
in the second layer, the amount of cobalt based on
10 the total metal amount is at least 60 mass%.
2. A glass coated with a heat reflecting colored film,
which comprises a glass substrate, and a first layer
containing cobalt oxide and a second layer containing
iron oxide, laminated sequentially by a sputtering method
15 on one side of the glass substrate, wherein:
in the first layer, the amount of cobalt based on
the total metal amount is at least 60 mass%, and
in the second layer, the amount of iron based on the
total metal amount is at least 60 mass%.
- 20 3. A glass coated with a heat reflecting colored film,
which comprises a glass substrate, and a first layer
containing iron oxide, chromium oxide and nickel oxide
and a second layer containing cobalt oxide, laminated
sequentially by a sputtering method on one side of the
25 glass substrate, wherein:
in the first layer, the amounts of iron, chromium
and nickel, based on the total metal amount, are as

follows:

iron: from 60 mass% to 85 mass%,

chromium: from 10 mass% to 28 mass%, and

nickel: from 5 mass% to 24 mass%, and

5 in the second layer, the amount of cobalt based on the total metal amount is at least 60 mass%.

4. A glass coated with a heat reflecting colored film, which comprises a glass substrate, and a first layer containing cobalt oxide and a second layer containing
10 iron oxide, chromium oxide and nickel oxide, laminated sequentially by a sputtering method on one side of the glass substrate, wherein:

in the first layer, the amount of cobalt based on the total metal amount, is at least 60 mass%, and

15 in the second layer, the amounts of iron, chromium and nickel, based on the total metal amount, are as follows:

iron: from 60 mass% to 85 mass%,

chromium: from 10 mass% to 28 mass%, and

20 nickel: from 5 mass% to 24 mass%.

5. A process for producing the glass coated with a heat reflecting colored film as defined in Claim 1, which comprises:

a step of laminating the first layer on one side of
25 the glass substrate, by sputtering by means of a metal oxide target containing iron oxide, and

a step of laminating the second layer on the first

layer, by sputtering by means of a metal target containing cobalt in a sputtering gas atmosphere containing an oxidizing gas, or by sputtering by means of a metal oxide target containing cobalt oxide in a sputtering gas atmosphere containing no oxidizing gas or in a sputtering gas atmosphere containing an oxidizing gas.

6. A process for producing the glass coated with a heat reflecting colored film as defined in Claim 2, which comprises:

a step of laminating the first layer on one side of the glass substrate, by sputtering by means of a metal target containing cobalt in a sputtering gas atmosphere containing an oxidizing gas, or by sputtering by means of a metal oxide target containing cobalt oxide in a sputtering gas atmosphere containing no oxidizing gas or in a sputtering gas atmosphere containing an oxidizing gas, and

a step of laminating the second layer on the first layer, by sputtering by means of a metal oxide target containing iron oxide.

7. A process for producing the glass coated with a heat reflecting colored film as defined in Claim 3, which comprises:

a step of laminating the first layer on one side of the glass substrate, by sputtering by means of a metal target containing iron, chromium and nickel as components

in a sputtering gas atmosphere containing an oxidizing gas, and

a step of laminating the second layer on the first layer, by sputtering by means of a metal target containing cobalt in a sputtering gas atmosphere containing an oxidizing gas, or by sputtering by means of a metal oxide target containing cobalt oxide in a sputtering gas atmosphere containing no oxidizing gas or in a sputtering gas atmosphere containing an oxidizing gas.

8. A process for producing the glass coated with a heat reflecting colored film as defined in Claim 4, which comprises:

a step of laminating the first layer on one side of the glass substrate, by sputtering by means of a metal target containing cobalt in a sputtering gas atmosphere containing an oxidizing gas, or by sputtering by means of a metal oxide target containing cobalt oxide in a sputtering gas atmosphere containing no oxidizing gas or in a sputtering gas atmosphere containing an oxidizing gas, and

a step of laminating the second layer on the first layer, by sputtering by means of a metal target containing iron, chromium and nickel as components in a sputtering gas atmosphere containing an oxidizing gas.

9. A glass coated with a heat reflecting colored film, obtained by heat treatment of the glass coated with a

heat reflecting colored film as defined in Claim 1.

10. A glass coated with a heat reflecting colored film,
obtained by heat treatment of the glass coated with a
heat reflecting colored film as defined in Claim 2.

5 11. A glass coated with a heat reflecting colored film,
obtained by heat treatment of the glass coated with a
heat reflecting colored film as defined in Claim 3.

12. A glass coated with a heat reflecting colored film,
obtained by heat treatment of the glass coated with a
10 heat reflecting colored film as defined in Claim 4.

13. The glass coated with a heat reflecting colored film
according to Claim 9, wherein the surface sheet
resistance of the film-coated side is at least $10^5 \Omega/\square$.

14. The glass coated with a heat reflecting colored film
15 according to Claim 10, wherein the surface sheet
resistance of the film-coated side is at least $10^5 \Omega/\square$.

15. The glass coated with a heat reflecting colored film
according to Claim 11, wherein the surface sheet
resistance of the film-coated side is at least $10^5 \Omega/\square$.

20 16. The glass coated with a heat reflecting colored film
according to Claim 12, wherein the surface sheet
resistance of the film-coated side is at least $10^5 \Omega/\square$.

17. The glass coated with a heat reflecting colored film
according to Claim 9, wherein the visible light
25 transmittance is from 20 to 40%, and the visible light
reflectance of the film-coated side and the other side is
from 20 to 40% and from 10 to 25%, respectively.

18. The glass coated with a heat reflecting colored film according to Claim 10, wherein the visible light transmittance is from 20 to 40%, and the visible light reflectance of the film-coated side and the other side is
5 from 20 to 40% and from 10 to 25%, respectively.

19. The glass coated with a heat reflecting colored film according to Claim 11, wherein the visible light transmittance is from 20 to 40%, and the visible light reflectance of the film-coated side and the other side is
10 from 20 to 40% and from 10 to 25%, respectively.

20. The glass coated with a heat reflecting colored film according to Claim 12, wherein the visible light transmittance is from 20 to 40%, and the visible light reflectance of the film-coated side and the other side is
15 from 20 to 40% and from 10 to 25%, respectively.

21. A process for producing the glass coated with a heat reflecting colored film, which comprises:

a step of coating a ceramic color paste and/or a silver paste on the glass coated with a heat reflecting colored film obtained by the process as defined in Claim
20 5, and

a step of then carrying out heat treatment.

22. A process for producing the glass coated with a heat reflecting colored film, which comprises:

25 a step of coating a ceramic color paste and/or a silver paste on the glass coated with a heat reflecting colored film obtained by the process as defined in Claim

6, and

a step of then carrying out heat treatment.

23. A process for producing the glass coated with a heat reflecting colored film, which comprises:

5 a step of coating a ceramic color paste and/or a silver paste on the glass coated with a heat reflecting colored film obtained by the process as defined in Claim 7, and

a step of then carrying out heat treatment.

10 24. A process for producing the glass coated with a heat reflecting colored film, which comprises:

a step of coating a ceramic color paste and/or a silver paste on the glass coated with a heat reflecting colored film obtained by the process as defined in Claim

15 8, and

a step of then carrying out heat treatment.